Richmond Power and Light

Electric Service Quality Rulemaking
Data Request

Reliability:

1. Is your utility participating in any EPRI (or other organizations) research projects relating to reliability or other service quality issues?

   Yes, RP&L participates in the Hagler Bailly Electric Reliability Best Practices Survey. This survey reveals reliability data, cause of outages, and operational practices from electric utilities across the nation. While not currently participating in any specific project, RP&L is a funded member of EPRI and has access to reliability work product.

Service Interruption and Outages

Sustained Outages:

1. How does your utility identify an outage?

   An outage is identified by a customer reporting a loss of electricity or by field data supplied by the SCADA system. An outage is considered "sustained" when a customer is deprived of electricity for longer than one minute, an outage of less than one minute in duration is considered a "momentary" outage.

2. Please describe the response process once an outage is identified.

   Field personnel are dispatched to the customer or area affected by an outage. The cause of the outage will be determined. Appropriate resources will be used to restore service and the cause of the outage will be isolated and repaired. If necessary, service will be temporarily restored by alternate means to as many customers as possible. RPL has improved its response to major outages by developing and rehearsing techniques in service restoration. All company personnel have specific tasks pre-assigned to them and are well trained in their duties. Construction personnel will follow up their repair with individual customers during isolated outages. In the case of widespread outages, office staff will contact by telephone various customers in the affected area to insure that service has been restored.

3. Under what conditions or circumstances does your utility report an outage to the Commission?

RP&L will report an outage based on Commission guidelines. RP&L has not yet experienced an outage of significant magnitude that warrants notifying the Commission.

4. Outages resulting from major weather events can somewhat be anticipated, please describe the weather event outage response from the time a weather situation is known through the time the last customer is brought back online.

   Richmond Power & Light will respond to major or minor outages as described in Question 2. RP&L has a relatively small service area, one warehouse, and one operations center. As a result, the response discussed in Question 2 has proven to be very effective in all types of weather related and non-weather events. Experience has proven that damage from storms is unpredictable and therefore the severity of outages is also unpredictable.

5. What other government agencies or organizations must your utility interact or communicate with during outage situations?

   These situations are case specific, however, RP&L would typically interact with the organizations discussed in Question 6.

6. Are there other agencies, organizations, or companies that your utility typically interacts or communicates with during critical outage situations?

   Wayne County Emergency Response Center, local fire and police departments, Red Cross, and local broadcast and printed media are contacted during severe outages. Red Cross and Wayne County Response have been contacted during smaller, isolated outages that occurred in severe cold or other life threatening conditions.

7. What is the policy concerning the use of service crews from other utilities?

   Other utility personnel are used at the discretion of RP&L management, typically when RP&L service crews cannot restore power in a reasonable amount of time. RP&L participates in the IMEA Mutual Aid Program and other utilities have been very willing to send personnel when needed. Non-utility crews are seldom used unless they are already on site.

8. What type of information does your utility typically gather/report/analyze regarding sustained outages?

   Information regarding cause, circuit, location, duration, protective device, and number of customers affected is collected and reviewed. This information is used to determine ways to improve overall service reliability, prevent or reduce in duration and size future outages, and justify potential system improvement projects.

9. Does the utility attempt to quantify the financial costs of outages to customers and local communities?

   No. The cost to individual customers would require operational and economic data concerning their operation that is unavailable to us. Collecting data and determining these costs would be very costly and impractical.

Momentary Outages:

1. Does your utility identify and track momentary outages?

   A momentary outage is identified by a customer's report or by data obtained from SCADA systems. A momentary outage is defined as an outage, which lasts less than one minute.

2. What type of information does your utility typically gather/report/analyze regarding momentary outages?

   Information regarding cause (if known), circuit, type of customer affected, and frequency are collected and reviewed.

3. Other than the duration of the outage, are there operational or characteristic differences in a sustained outage versus a momentary outage?

   The overwhelming majority of momentary outages on the RP&L system are breaker operations, which restore service automatically. As a result, such outages are temporary in nature and require less operational and repair resources. Due to their temporary nature, it is quite common not be able to determine the cause.

Performance Measures and Statistics:

1. Typical reliability performance statistics include SAIDI, CAIDI, SAIFI, etc. Does your utility routinely calculate these statistics?

   Yes, RP&L calculates values for SAIDI, CAIDI, and SAIFI monthly. The variables and calculations are defined by industry standard. RP&L uses software purchased from APPA to calculate the above values. The system operator manually enters outage data into the software.

2. Are there other reliability statistics your utility calculates?

   Yes, RP&L also calculates a value for ASAI, defined as "Average Service Availability Index". It is calculated by (customer minutes available/total customer minutes) expressed as a percent. This value is calculated by APPA software from data supplied by the system operator.

3. Does your outage management system calculate other reliability statistics that your utility does not routinely review?

   No.

4. Reliability statistics are often calculated excluding storms or other major outage events. Do reliability statistics typically calculated by your utility include or exclude storms or major events?

   RP&L includes all non-scheduled outages, regardless of cause, size, or duration in reliability statistics. If the Commission were to proceed with a rulemaking regarding these statistics, it should exclude major events. The electrical distribution system is not designed to withstand tornados and other such events. Expectations beyond design standards are unreasonable.

5. How do service territory differences affect the calculation of reliability statistics? What statistic, if any, is most indifferent to the service area characteristics?

   Rural areas typically suffer more outages than other areas. This is due to the large area of service. Circuits are more widespread, exposed to more hazards, and require more time to restore. SAIFI would be the most indifferent statistic to service area, though some distinction should be made between urban and rural electric utilities. Larger service territories are also more likely to experience severe weather variations.

6. Can the calculation of reliability indices be standardized among Indiana utilities?

   Yes, standardization should be possible for electric utilities. Existing reliability measures are already established. Specific details and procedures would have to be developed however; this should present no great obstacle. The Commission should consider that while the calculations can be standardized, the applications could vary for the reasons previously discussed.

7. Should utility size or other characteristics be taken into consideration when evaluating the reliability statistics from a company?

   Yes, especially when comparing statistics from rural and urban utilities. Smaller utilities typically lack the staff and resources available to larger utilities to monitor and track this data.

8. Are performance evaluations and the resulting compensation for any individual, group, or division of the utility tied to reliability statistic results?

   No, compensation is not based upon reliability though certain staff is partially evaluated upon improving overall reliability.

Worst Circuits:

1. Are there areas of your utility's service territory that are more prone to outages than others?

   The rural areas with long circuit configurations have more exposure and are more susceptible to outages. Also, circuits in areas of dense trees will be more prone to tree and animal related outages. RP&L regularly evaluates system reliability and uses this data to develop capital improvement projects.

2. What are the advantages of identifying the top worst performing circuits of a utility?

   Provides measurable data for developing system improvement projects.

3. What are the disadvantages of identifying the top worst performing circuits of a utility?

   Potentially leads to customer perception issues with "worst circuit." Any ranking will result in a worst circuit, even if that circuit's overall performance is acceptable. A customer may express dissatisfaction being served by the "worst" circuit on the system.

Power Quality:

1. Based on your utility's interaction with its customers, is power quality an important concern of your customers? What aspects of power quality are of particular concern?

   Power quality is very clearly an important issue with our customers, especially industrial customers. Industry typically uses and depends upon power sensitive electronic equipment. Such equipment cannot tolerate transients or similar power disturbances. All customer classes require proper voltage regulation. RP&L technical staff places a high priority to customer's power quality concerns and the utility has established a power quality team.

   The Commission should be aware that as our society moves to a more digital based home and workplace, the requirements for exceptional power quality have increased. It should be very careful not to raise expectations that the utility is solely responsible for power quality. Quite often customer equipment is responsible for power quality problems. Also, most residential customers would not want to pay the price for a distributions system capable of delivering 7-9 "9"'s of reliability.

2. Does your utility have any program or plan in place specifically addressing power quality issues?

   Yes, RP&L has established a power quality team. Technicians are provided with current equipment and training to diagnose and solve power quality problems, whether those problems originate inside or outside of the customer's facility. One team member has become a Certified Power Quality Professional by the Association of Energy Engineers.

3. Does your utility collect/track any type of power quality related data?

   Overall system voltage and loading is monitored and reviewed at the substation and substation feeder level. Power quality technicians collect specific data from customers during power quality reviews and audits. RP&L is just starting a program to place permanent power quality monitoring equipment at the customer's facility. All data is used to insure that RP&L provides electrical energy within IEEE standards.

4. Is power quality data used as a performance measure for compensation for any person(s), groups and/or divisions in your utility?

   No, compensation is not based on power quality data, though certain staff is partially evaluated by the performance of power quality investigations.

Leading Indicators:

1. What are good leading indicators of possible service outages? Does your utility routinely monitor specific aspects of the electric operations or system with the goal of preventing service outages?

   Transformer gas analysis and age of facilities, especially underground cable and substation equipment, have proven to be a factor in reliability. Routine line clearance of trees is vital. If tree clearing is cut back, increased outages will follow.

2. Does your utility have a routine inspection and maintenance plan/procedure in place designed to prevent the possibility of service outages?

   RP&L routinely inspects and performs maintenance on substation equipment consistent with manufacturer's recommendations and industry standards. Such tests include transformer oil and gas analysis, breaker maintenance, and Doble testing. Poles are inspected and treated on a ten-year cycle.

3. Has this plan/procedure changed in the past five years?

Yes, this utility employs new techniques and technologies as they become available. An example is the use of infra-red image inspection.

4. Has your utility made any study or analysis as to how successful your inspection and maintenance plan/procedure has been in preventing service outages?

   Overall system reliability is formally reviewed at years-end. The present years outages are evaluated and compared to previous years in order to monitor and evaluate the efforts to improve reliability. Past practice has shown that preventive maintenance typically eliminates two substantial outages per year by identifying equipment that is near failure.

5. Does your utility have a vegetation management plan/procedure in place designed to prevent the possibility of service outages?

   Yes, RP&L has a scheduled four-year line clearing cycle. Additional tree trimming occurs on an as needed basis.

6. Has this plan/procedure changed in the last five years?

   Directional pruning has been implemented to reduce tree contacts and improve customer relations. RP&L has become a Tree Line USA utility and tree trimmers are certified by ACRT, based in Kent, Ohio.

7. Has your utility made any study or analysis as to how successful your vegetation management plan/procedure has been in preventing service outages?

   Experience has shown that recently cleared circuits typically have fewer tree contact outages than other circuits.

8. Does your utility identify/track the age of equipment used in the production and delivery of electricity to the customer?

   Yes, age of major facilities, including poles and transformers, is tracked. The age of facilities has proven to be an important influence to reliability.

9. Could equipment age be used as a leading indicator of potential service outages?

   Yes, especially the age of substation equipment, such as transformers and circuit breakers. Underground high voltage cable typically experiences decreased reliability due to age.

10. Does your utility track equipment used in the production and delivery of electricity to the customer to identify equipment that tends to have a premature or unpredicted failure rate or degraded performance level?

Yes, experience has shown this information to be one of the best ways to eliminate potential outages.

11. Could the identification of equipment with premature or unpredicted failure rate or degraded performance level be used as a leading indicator of potential service outages?

    RP&L identifies equipment with unsatisfactory performance for this reason. Recent events of premature pole and disconnect switch failure have proven the benefits received from tracking equipment performance.

12. Are there any other methods you carry out to help maintain and/or improve system reliability?

    RP&L improves reliability with periodic system studies, relay tests, and infra-red inspections. This utility is currently upgrading transmission line relays.

Setting Performance Standards:

1. Does your utility set any type of performance standards relating to service reliability and quality as a method of determining employee and/or division performance for compensation purposes?

    No, RP&L does not use performance standards when evaluating compensation.

2. Could similar standards be set by the Commission to help evaluate and compare the service quality of Indiana utilities?

    Applying standards to evaluate utilities would be difficult and potentially misleading due to significant differences in utility size and service area. Utilities respond to forces outside of their control, such as weather events and vehicular accidents.

3. If these standards are not appropriate to help evaluate and compare the service quality of Indiana utilities, please suggest some standards that would be appropriate.

    Industry standard statistics for electric reliability, such as ASAI, SAIDI, CAIDI, and SAIFI, provide measurable values. Some distinction between utilities should be made for the reasons discussed immediately above in Question 2. These statistics could potentially be used for all utilities however, different values for acceptable performance should be set for differing utilities.

4. To date there has been little or no use of I.C. 8-1-2.5 by utilities to propose performance based rates that would tie utility incentives/penalties to reliability

and other measurable performance criteria. Is there a problem with how I.C. 8-1-2.5 is structured that makes it inappropriate or ineffective as a vehicle for performance based rates?

There is no problem with the structure of I.C. 8-1-2.5. Being a municipal electric utility, RP&L is not driven to find ways of increasing Rate of Return, which is the typical result of performance-based plans. We would be open to Alternative Utility Regulation, however, that rewards us for performance in a manner that does not come at an additional cost to our customers. As municipal utilities, our customers are treated as our owners. Any penalties also would be borne by the customer-owners. We have always operated under the reality that if our customers are not satisfied with our level of service, they will put pressure on local governing bodies to replace utility management. This is incentive enough.

Safety:

1. Is your utility participating in any EPRI (or other organizations) research projects relating to safety?

   No, RP&L is not currently participating in any safety research project. RP&L is an EPRI member and has access to their work product.

2. What actions to ensure public safety are taken, both by the utility and other emergency resources, when a live power line has come down?

   RP&L cannot "ensure" the safety of the public. RP&L educates and informs the public on the hazards of downed power lines on a routine basis. Utility personnel are dispatched to the downed lines. The area will be secured as much as possible until repair crews arrive. Fire Department personnel may also respond on a case specific basis.

3. In situations where live power lines may be down in multiple locations, how is public safety ensured?

   These instances are typically responded to as discussed in Question 2 immediately above. Emergency and law enforcement personnel are more likely to become involved in cases where several lines have fallen down.

4. In critical weather situations where widespread areas may experience outages or down power lines, is there any central coordination (beyond individual utilities) of the restoration of service and the repair of down lines?

   Restoration of electric service is best left to individual utilities that are familiar with their own systems. Additional resources are available through the IMEA Mutual Aid Program.

5. What could be done to improve the public awareness of the hazards that may exist as a result of weather related power outage? How does your utility inform customers of these types of hazards?

Frequent communication is a good way to keep the general public informed. RP&L includes safety reminders with the electric bill and newsletters, on local radio and television commercials, and during visits to local schools.

6. What is the most typical accident involving utility facilities that happens to utility personnel and to non-utility/customers/the general public?

Experience has shown that most accidents involving utility personnel are of the strain and sprain nature. Experience has also shown that most accidents involving utility facilities occur as a result of a vehicular accident. RP&L locates its facilities as far off roadways as possible. Additionally, facilities are built to conform to NESC recommendations as to height above ground and distance from buildings and other structures.

7. What is current average term of employment for service and line crew personnel? Does your utility provide on-going safety training for your line and service crews?

The current average term of employment is 16.3 years. Yes, RP&L participates in IMEA training courses and safety classes that are approved by the Department of Labor.

8. Commission rules currently require utilities to report accidents resulting in death. Do you think this rule provides useful information to the Commission? Do you have any recommended changes that would make this rule more useful?

Yes, this rule provides useful information, however, we feel that the utility should be given ample time to submit any written report. In some cases, it can take a significant amount of time to conduct a thorough accident investigation.

9. What other organizations or agencies must you report to when there has been an accident, injury, or fatality?

IOSHA must be notified in the event of a fatality or if three or more people are hospitalized. Insurance carrier is notified in the event of an accident requiring medical care. The Department of Labor in turn receives information from the insurance carrier. The general details, such as the nature of injury, number of persons involved, etc. are reported as soon as possible.

10. The Commission is aware that in preparation for Y2K utilities developed emergency operating plans. Does your utility continue to maintain and update an emergency operating plan?

Yes, RP&L maintains a power restoration team.

Customer Service:

1. Is your utility participating in any EPRI (or other organizations) research projects relating to customer service?

   No, RP&L is not currently participating in any customer service research projects but does have access to any EPRI work product. RP&L conducts regular customer surveys through a private research firm.

2. Please describe your utility's customer service philosophy and how your utility implements this policy?

   RP&L's customer service philosophy is best described as a "Partnership With the Community." This utility maintains a customer service center which is visited by 25% of RP&L's customers each month. Customers who contact the utility by telephone are greeted personally, not by an automated operator. All utility employees received positive reinforcement to promote customer service from RP&L management. RP&L respects its customer's requests and has changed business practices based on those requests. Examples are accepting payment by credit card and billing customers at the beginning or end of the month.

3. How many employees are directly engaged in customer service types of activities and where do they fit in the utility's overall organizational structure?

   There are 18 customer service employees in a utility with 142 total employees. Five employees work in the customer service center and report to the Finance Manager through a supervisor. The remaining 13 employees work in the general office and report directly to the Finance Manager. Management strongly reinforces the concept that customer service is everyone's job.

4. Assuming there are a variety of activities that can be considered "customer service" please describe the different types of activities your utility classifies as "customer service" and how many employees are engaged in each activity.

   Most direct dealings with customers occur at the customer service center. Customers may sign for electric service, pay electric bills, have questions answered, and request utility services. There are five employees in the customer service center. Customers may discuss billing questions with eleven general office employees. Two employees are field personnel and are available to meet customers on site.

5. Please provide a brief description of the qualifications required by employees engaged in the various customer service activities described in response to the

previous question. Have these requirements and protocols changed over the past five years?

Employees must be high school graduates, be able to operate various computer applications, and interact with customers in a friendly, professional manner. These requirements have not changed in the past five years. Though not a requirement, employees have received training in the Spanish language due to changes in customer demographics. Certain management/supervisory positions may require more qualifications than others.

6. Please describe any equipment and/or facilities that are specifically designed to help the utility to communicate with its customers and to enhance customer service.

The customer service center is specifically used to promote and enhance customer service. RP&L, through IMPA, publishes a quarterly newsletter for all customers. RP&L receives feedback through surveys and improves service based upon these responses whenever possible.

7. How does your utility evaluate the quality and performance of your customer service activities?

RP&L surveys its customers through the services of SDS, located in Salt Lake City, Utah. SDS conducts phone surveys with quarterly follow-ups. RP&L consistently receives a 98% overall positive index rating.

8. Is the compensation of employees, groups, or divisions tied to customer service performance?

No, compensation is not based on customer service performance.

9. What methods or statistics are used to evaluate customer service performance?

The surveys and statistics discussed in Question 7 above.